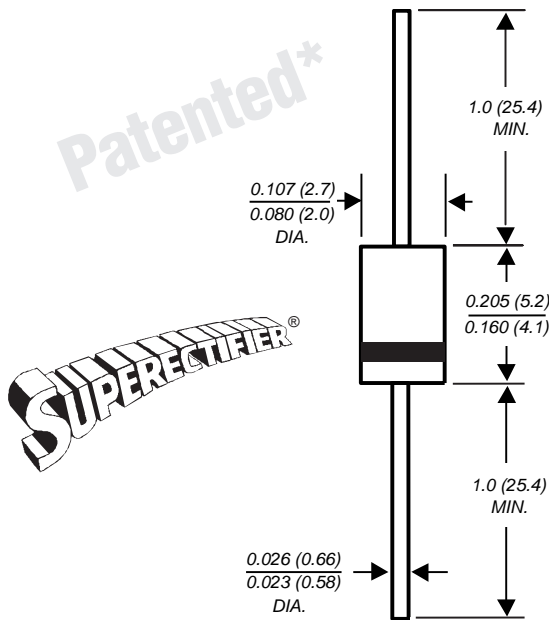


Case Style GP10E

## Glass Passivated Junction Fast Switching Rectifier

Reverse Voltage 1200 to 2000V  
Forward Current 0.5A



Dimensions in inches and (millimeters)

\* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, and brazed-lead assembly by Patent No. 3,930,306

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Capable of meeting environmental standards of MIL-S-19500
- For use in high frequency rectifier circuits
- Fast switching for high efficiency
- Cavity-free glass passivated junction
- 0.5 Ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- Typical  $I_R$  less than  $0.2\mu\text{A}$
- High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

**Case:** Molded plastic over glass body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.012 oz., 0.3 g

## Maximum Ratings & Thermal Characteristics Ratings at $25^\circ\text{C}$ ambient temperature unless otherwise specified.

Parameter	Symbols	RGP02-12E	RGP02-14E	RGP02-16E	RGP02-18E	RGP02-20E	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	1200	1400	1600	1800	2000	V
Maximum RMS voltage	$V_{RMS}$	840	980	1120	1260	1400	V
Maximum DC blocking voltage	$V_{DC}$	1200	1400	1600	1800	2000	V
Maximum average forward rectified current $0.375"$ (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	0.5					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	20					A
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	65 30					$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175					$^\circ\text{C}$

## Electrical Characteristics Ratings at $25^\circ\text{C}$ ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 0.1A	$V_F$	1.8					V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$	5.0 50					$\mu\text{A}$
Maximum reverse recovery time at $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	$t_{rr}$	300					ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	5.0					pF

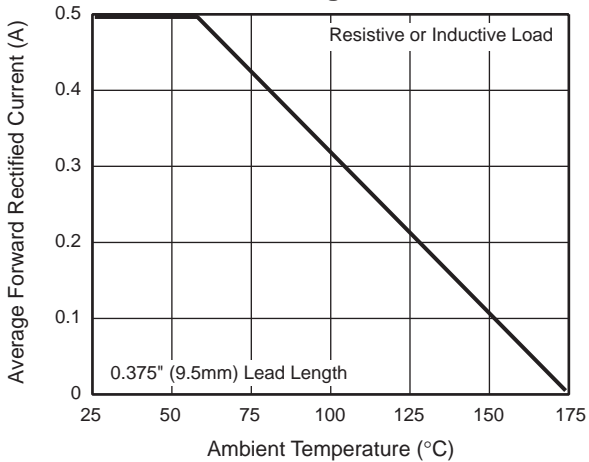
**Note:**

(1) Thermal resistance from junction to ambient and from junction to lead at  $0.375"$  (9.5mm) lead length, P.C.B. mounted

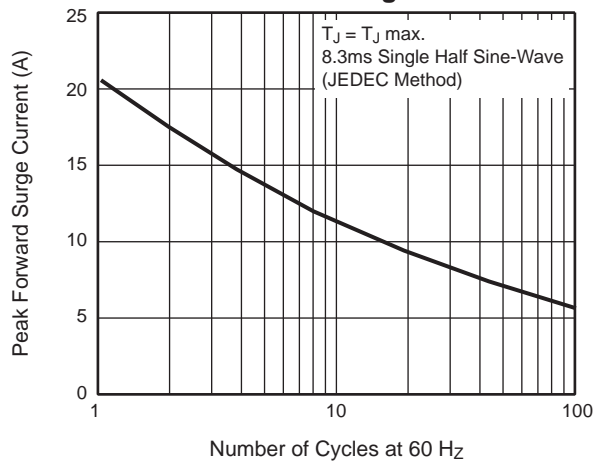
Vishay Semiconductors  
formerly General Semiconductor

## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

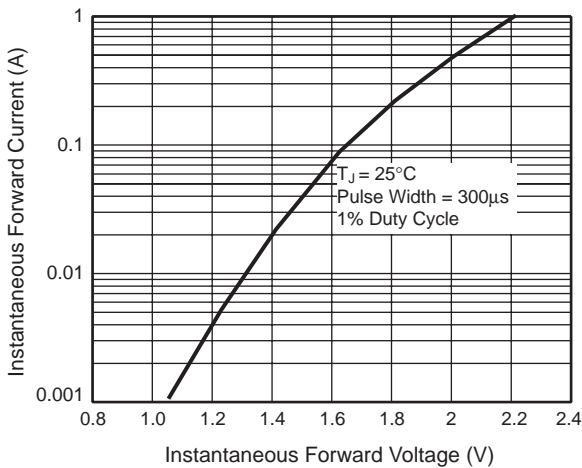
**Fig. 1 — Forward Current Derating Curve**



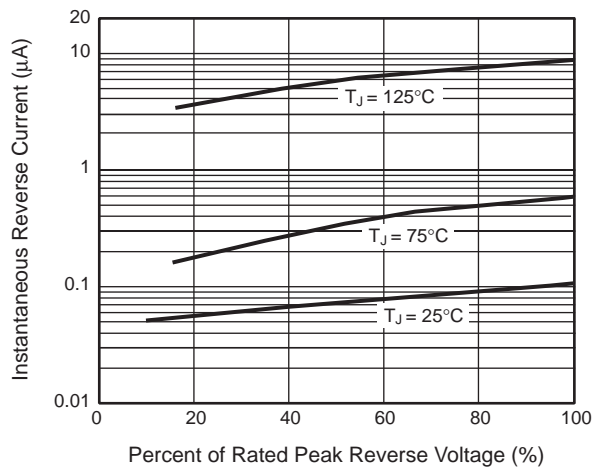
**Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 — Typical Instantaneous Forward Characteristics**



**Fig. 4 — Typical Reverse Characteristics**



**Fig. 5 — Typical Junction Capacitance**

